

### Claims

1. A method for detecting the motion of an element relative to a sensor apparatus, having

- a detection of the direction of the motion, characterized in that

- as a function of the direction of motion, a measurement signal is increased or decreased at predetermined measurement intervals; and that

not until a predetermined threshold value is exceeded is a direction-of-motion signal generated.

2. The method of claim 1, characterized in that

- by means of a counting logic circuit (6), a counter is increased by a binary amount in one direction (2), and in the other direction (3) the counter (6) is decreased by a binary amount; and that

- upon a detection of measurement signals which as a result of being increased or decreased in the measurement interval do not lead to exceeding of the predetermined amount of the threshold value, vibration of the element is detected.

3. The method of claim 1 or 2, characterized in that

- upon a detection of the measurement signals, for detecting the motion of the element, a variable hysteresis is additionally provided.

4. The method of one of the foregoing claims, characterized in that

- for detecting the motion of a rotatable element, the direction of rotation is detected.

5. A sensor apparatus for performing a method of one of the foregoing claims, characterized in that

- the sensor apparatus has contactless sensors, with which binary counting pulses ( $\pm 1$ ) can be generated at predetermined motion intervals; and that an evaluation circuit includes a counting logic component (6), with which the counting pulses ( $\pm 1$ ) are countable, and if the predetermined amount is exceeded, a direction signal (7) can be generated, and otherwise, vibration of the element is detectable.

6. The sensor apparatus of claim 5, characterized in that

- the sensors include Hall elements.

7. The sensor apparatus of one of claims 5 or 6, characterized in that

- the sensor apparatus is used as a rpm sensor in a motor vehicle.